ORDER NO. GAD8607592A2

Service Manual

Mini Cassette

RQ-345

(Silver)

Mini Cassette Recorder

This is the Service Manual for the following areas.

Z ··· For all European areas except United Kingdom.

- Please use this manual together with the service manual for model No. RQ-345 order No. GAD8604548C1.
- This service manual indicates the main differences between; Original RQ-345 (for M mark areas.) and RQ-345 for Z mark areas.

CHANGE

■ SPECIFICATIONS

Power Requirement: AC; 120V, 60Hz (with optional Panasonic AC Adaptor RP-63)
Battery; 6V (four "AA" size dry batteries)
Car battery; with optional Panasonic car adaptor RP-698
RQ-345 M (Original)

➡

Power Requirement: AC; 220V, 50Hz with optional AC adaptor RD-9496S
Battery; 6V (four UM-3, "AA" size batteries)
RQ-345 Z

■ PARTS COMPARISON TABLE:

Ref. No.	Description	Part Number		Remarks
		RQ-345 M (Original)	**RQ-345 Z**	
A1	Operating Instructions	RQXK4041Z	**RQXK4052ZA**	
P1	Gift Box	RPKK1040Z	**RPKK1046ZA**	

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

KTB H.M Z Printed in Japan Ⓗ

ORDER NO. GAD8604548C1
A1

Service Manual

Mini Cassette

RQ-345

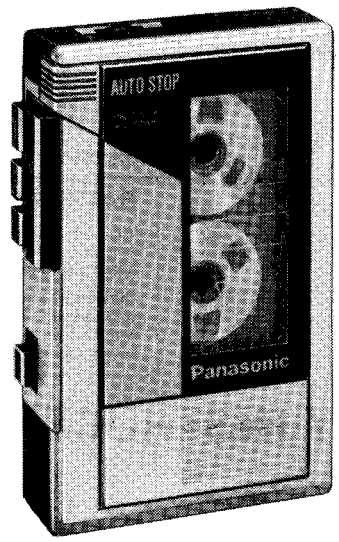
(Silver)

Mini Cassette Recorder

This is the Service Manual for the following areas.

M ··· For U.S.A.

C ··· For Canada.



■ SPECIFICATIONS

Power requirement:	AC; 120V, 60Hz (with optional Panasonic AC Adaptor RP-63) Battery; 6V (four "AA" size batteries) Car battery; (with optional Panasonic Car Adaptor RP-698)
Motor:	Mechanism governor motor
Power output:	700mW
Tape speed:	$1^{7}/_{8}$ ips (4.8cm/s)
Frequency response:	300~4,000Hz
Track system:	2-track monaural recording and playback
Jacks:	DC in; 6V (Standard Type) Monitor; 8Ω φ3.5
Speaker:	$1^{3}/_{4}$" (4.5cm) PM dynamic speaker (6Ω)
Dimensions:	$3^{7}/_{8}$"(W)×$6^{1}/_{8}$"(H)×$1^{1}/_{2}$"(D) (99×155.5×39mm)
Weight:	13.7 oz (390g), without batteries

Weights and dimensions shown are approximate.
(Les poids et dimensions mentionnes sont approximatifs.)
Design and specifications are subject to change without notice.

Panasonic®

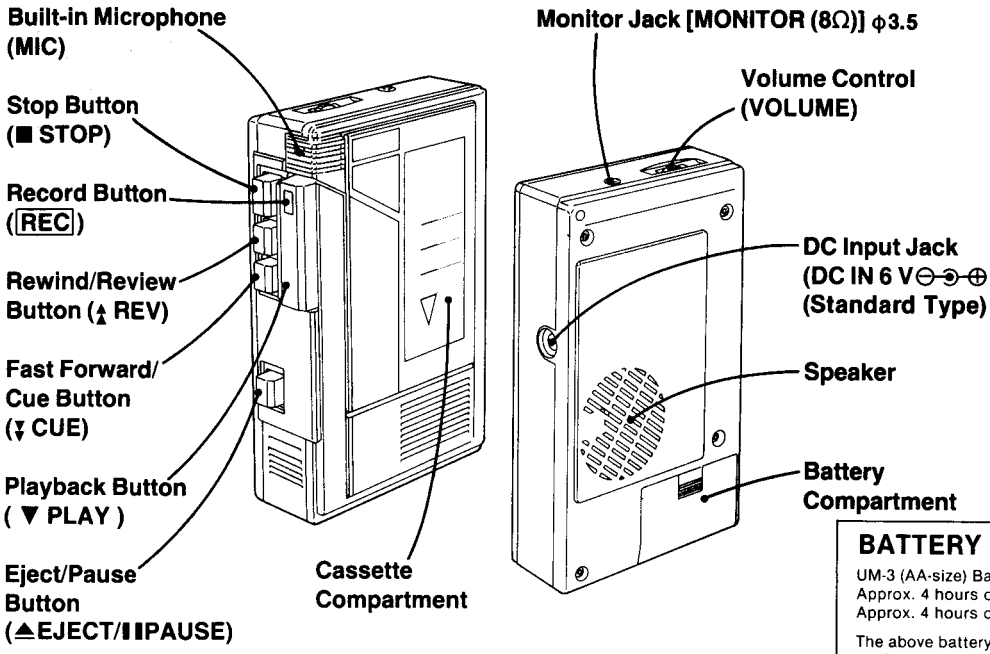
Matsushita Engineering and Service Company
50 Meadowland Parkway,
Secaucus. New Jersey 07094

Panasonic Hawaii Inc.
91-238 Kauhi St. Ewa Beach
P.O. Box 774
Honolulu, Hawaii 96808-0774

Matsushita Electric of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3

Panasonic Sales Company, Division of Matsushita Electric of Puerto Rico, Inc.
Ave, 65 De Infanteria, KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

LOCATION OF CONTROLS AND COMPONENTS



BATTERY SERVICE LIFE

UM-3 (AA-size) Batteries
Approx. 4 hours of recording (EIAJ)
Approx. 4 hours of playback (EIAJ) with volume set at center position

The above battery service life is measured according to the conditions set forth by EIAJ (Electronic Industries Association of Japan). As the battery service life varies with the method of operation and environmental conditions, use these values as reference.

DISASSEMBLY INSTRUCTIONS

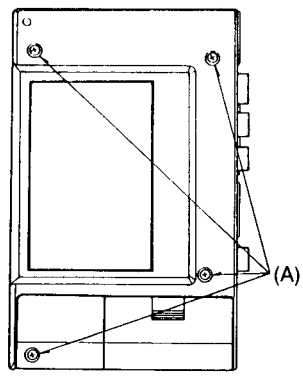


Fig. 1

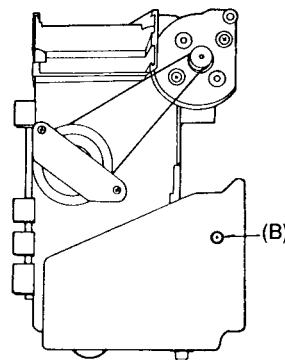


Fig. 2

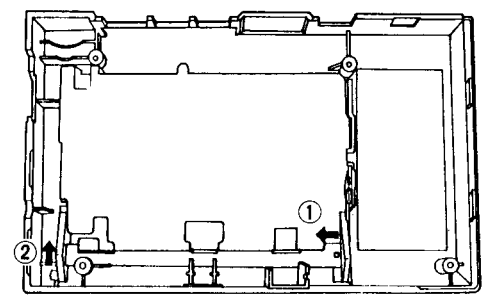


Fig. 3

Ref. No.	Shown in Fig. —.	To Remove	Remove
1	1	Rear Cabinet	Screw (2.6×30) mm .....(A)×4
2	2	Circuit Board	Screw (2.6×8) mm .....(B)×1
3	3	Cassette Compartment	Push the catch in the direction of arrows ① and ②.

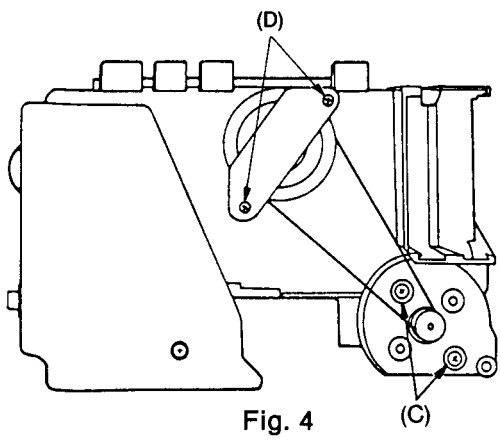


Fig. 4

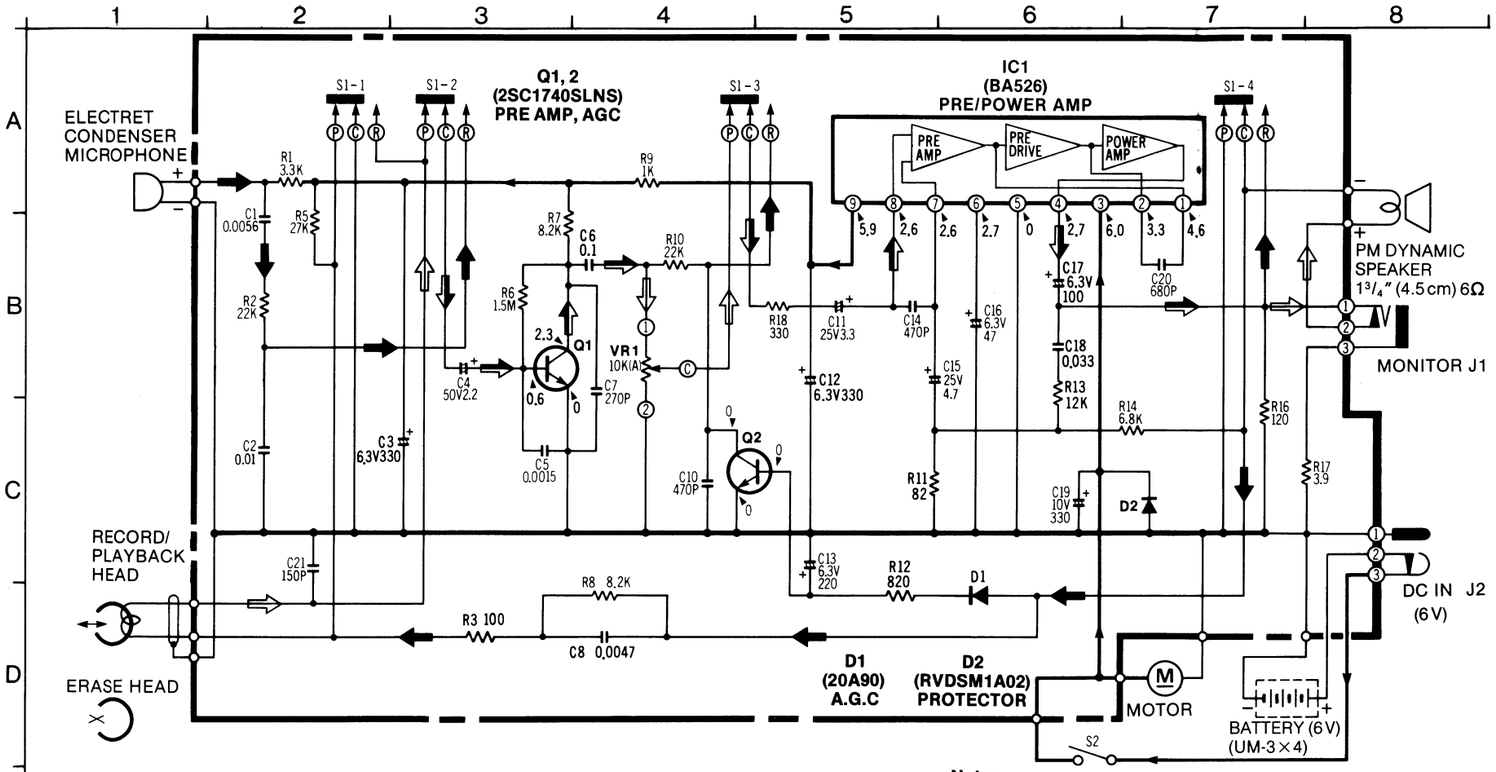
■ HOW TO REMOVE THE MOTOR

Remove two screws (2.6×7.5) mm (C).

■ HOW TO REMOVE THE FLYWHEEL ASSEMBLY

1. Remove two screws (2.6×8) mm (D).
2. Pull out the flywheel assembly.

SCHEMATIC DIAGRAM MODEL RQ-345



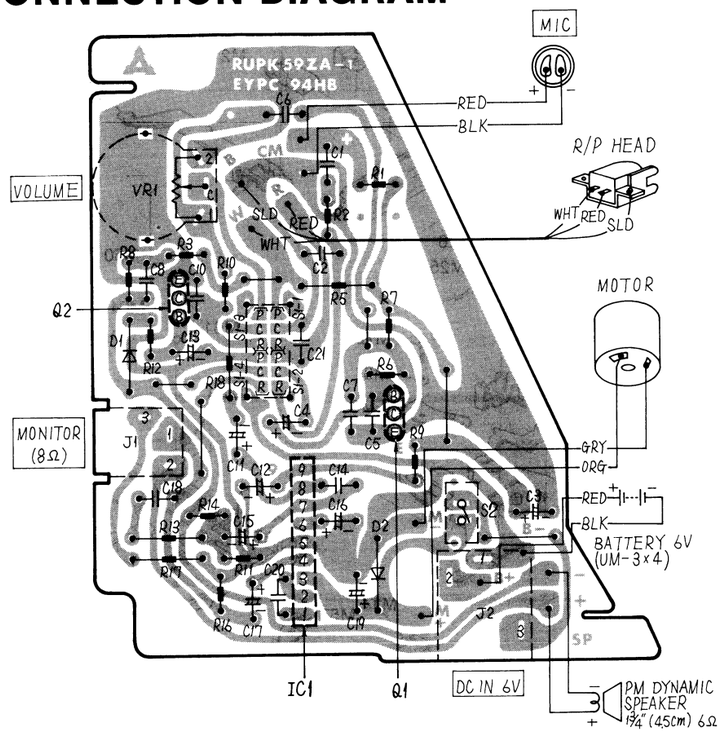
Notes:

1. S1-1~S1-4: Record/playback switch in "PLAYBACK" position. (R...Record, P...PLAYBACK)
2. S2: Motor ON/OFF switch.
3. VR1: Volume control VR.
4. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery. No mark...Playback
5. Battery current: No signal 177mA
   Maximum output (playback) 850mA
   Maximum output (record) 820mA

* This schematic diagram may be modified at any time with the development of new technology.

: RECORD
: PLAYBACK
: RECORD/PLAYBACK
: +B LINE

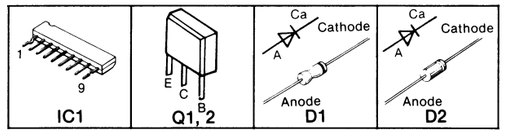
CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM



Notes: (for Circuit Board and Wiring Connection Diagram)

- The circuit shown in ▨ on the conductor indicates printed circuit on the back side of the printed circuit board.

- **The circuit board diagram may be modified at any time with the development of new technology.**



NOTES:

BLK .....Black
BLU .....Blue
BRN.....Brown
GRY.....Gray
GRN .....Green
L. BLU ....Light Blue
NIL.....No Color Mark
ORG .....Orange
PNK.....Pink
RED.....Red
SLD .....Shield Wire
VLT.....Violet
WHT.....White
YEL.....Yellow

ELECTRICAL PARTS LIST

Numbering System of Resistor

Example

ERD	25	F	J	101	
Type	Wattage	Shape	Tolerance	Value (100Ω)	
ERX	2	AN	J	2R2	
Type	Wattage	Shape	Tolerance	Value (2.2Ω)	

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value (1000 pF)	Tolerance	Peculiarity
ECEA	50	M	R47	
Type	Voltage	Peculiarity	Value (0.47 μF)	

Resistor Type	Wattage Tolerance
ERD: Carbon	10 : 1/8 W J : ±5%
ERG: Metal Film	12 : 1/2 W
ERX: Metal Film	25 : 1/4 W
ERQ: Fuse Type Metal	1 : 1 W
RRD: Carbon (Chip Type)	18 : 1/8 W

Capacitor Type	Voltage		Tolerance
	ECEA Type	Other	
ECEA: Electrolytic	0J : 6.3 V	2H : 500 V DC	C : ±0.25 pF
ECCD: Ceramic	1A : 10 V	1 : 100 V	J : ±5%
ECKD: Ceramic	1C : 16 V	DKC : 400 V AC	K : ±10%
ECQM: Polyester	1E : 25 V		Z : +80%, −20%
	1H : 50 V		
ECQP: Polypropylene	1V : 35 V		P : +100%, −0%
	50 : 50 V		
ECET: Electrolytic			
ECEA□□□N: Non Polar Electrolytic	25 : 25 V		
	16 : 16 V		
QCU □: Ceramic (Chip Type)			
ECUX: Ceramic (Chip Type)			

Ref. No.	Part No.	Ref. No.	Part No.
CAPACITORS		**RESISTORS**	
C 1	RCBS1C562NX	R 1	ERD16TJ332
C 2	RCBS1C103NY	R 2, 10	ERD16TJ223
C 3, 12	ECEA0JK331	R 3	ERD16TJ101
C 4	ECEA1HK2R2	R 5	ERD25TJ273
C 5	RCBS1C152NX	R 6	ERD16TJ155
C 6	ECFT1E104MX	R 7, 8	ERD16TJ822
C 7	RCBS1H271KB	R 9	ERD16TJ102
C 8	RCBS1C472NX	R 11	ERD16TJ820
C 10, 14	RCBS1H471KB	R 12	ERD16TJ821
C 11	ECEA1EK3R3	R 13	ERD25TJ123
C 13	ECEA0JK221	R 14	ERD16TJ682
C 15	ECEA1EK4R7	R 16	ERD16TJ121
C 16	ECEA0JK470	R 17	ERD25FJ3R9
C 17	ECEA0JK101	R 18	ERD25FJ331
C 18	ECFT1E333MX		
C 19	ECEA1AU331		
C 20	RCBS1H681KB		
C 21	RCBS1H151KB		

Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUIT		
IC 1	BA526	IC, PRE/POWER AMP
TRANSISTORS		
Q 1, 2	2SC1740SLNS	Transistor, PRE AMP, A.G.C.
DIODES & RECTIFIERS		
D 1	20A90	Diode, A.G.C.
D 2	RVDSM1A02	Diode, Regulator

Ref. No.	Part No.	Part Name & Description
VARIABLE RESISTOR		
VR 1	EVJ56AT12A14	Volume Control VR.
SWITCHES		
S 1	RSH2D17Z	Slide Switch, Record/Playback
S 2	QSB0294	Leaf Switch, Power ON/OFF
JACKS		
J 1	RJJD3M6Z	Jack, Monitor
J 2	RJJ97Y	Jack, DC IN

MEASUREMENTS AND ADJUSTMENTS

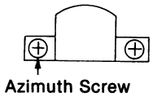
■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

1. Make sure heads are clean.
2. Make sure capstan and pressure roller are clean.
3. Judgeable room temperature: 20±5°C (68±9°F)
4. Set volume control to maximum.
5. Set power source voltage to 6V DC.

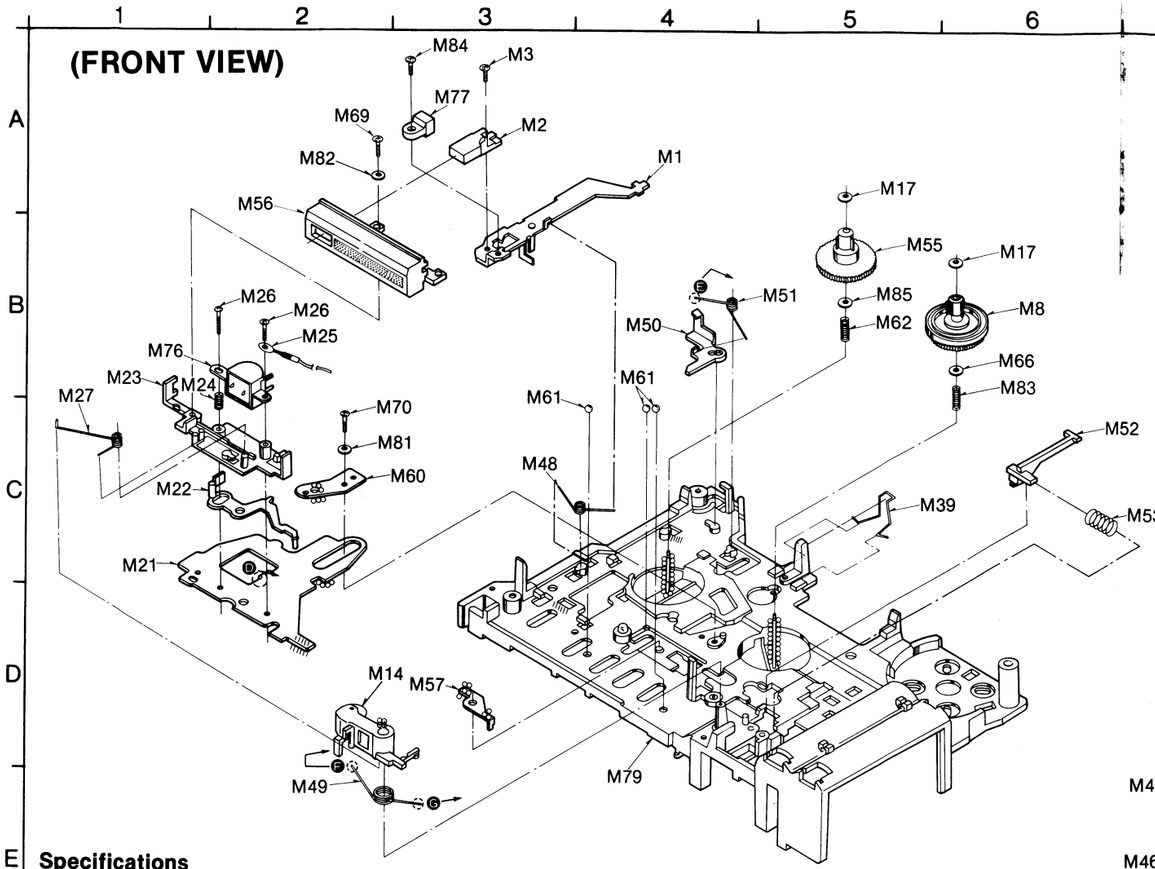
■ ADJUSTMENT

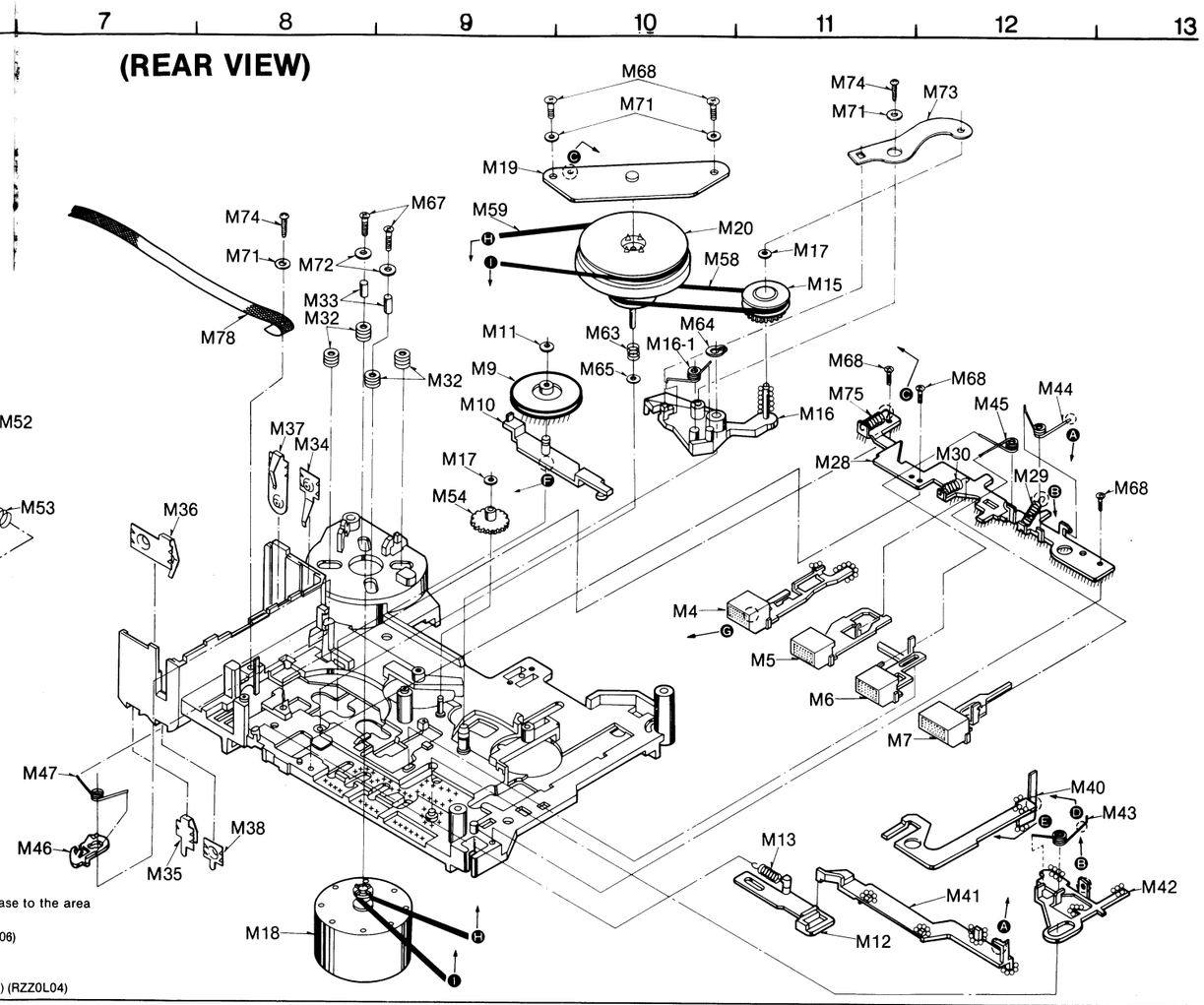
ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Head azimuth	QZZCFM (8kHz, −20dB)	Monitor jack (8Ω)	Maximum output	Head adjustment screw (Fig. 1)	Playback mode



Head Azimuth Screw
Fig. 1

MECHANISM PARTS LOCATION





Specifications

Playback torque	47^{+15}_{-10} g · cm	Pressure of pressure roller	360±60gcm
Fast Forward torque	65±20g · cm	Wow and flutter	0.4% (WRMS)
Rewind torque	65±20g · cm		

NOTES:
When changing mechanism parts, apply the specified grease to the area marked show in the drawing "Mechanism Parts Location"
- "××" mark.....Rocol paste (Lubricating grease) (RZZ0L06)
- "OO" mark.....Molytone (Lubricating grease) (RZZ0L07)
- "△△" mark.....Dynamic (Lubricating grease) (RZZ0L05)
- "////" mark (Obrique Lines).....Aero (Lubricating grease) (RZZ0L04)

M1~20	14 3 2 1 17 17 8 18 17 10 9 19 11 16-1 4 20 5 17 13 16 15 6 12 7	M1~20
M21~40	27 23 21 22 24 26 26 25 39 36 35 38 37 34 33 32 32 28 30 29 40	M21~40
M41~60	56 49 60 57 48 50 51 55 52 53 46 47 54 59 65 63 58 41 45 44 43 42	M41~60
M61~84	76 70 81 82 69 84 77 61 79 61 85 62 66 83 78 71 74 72 67 71 68 64 75 68 71 74 73 68 68	M61~84

Screw Dimensions Quick Reference

- **Dimensions**

XSN 3 + 10 = Pan head machine screw, 3mm in diameter, 10mm long.

Type/Diameter/Length

- **Types**

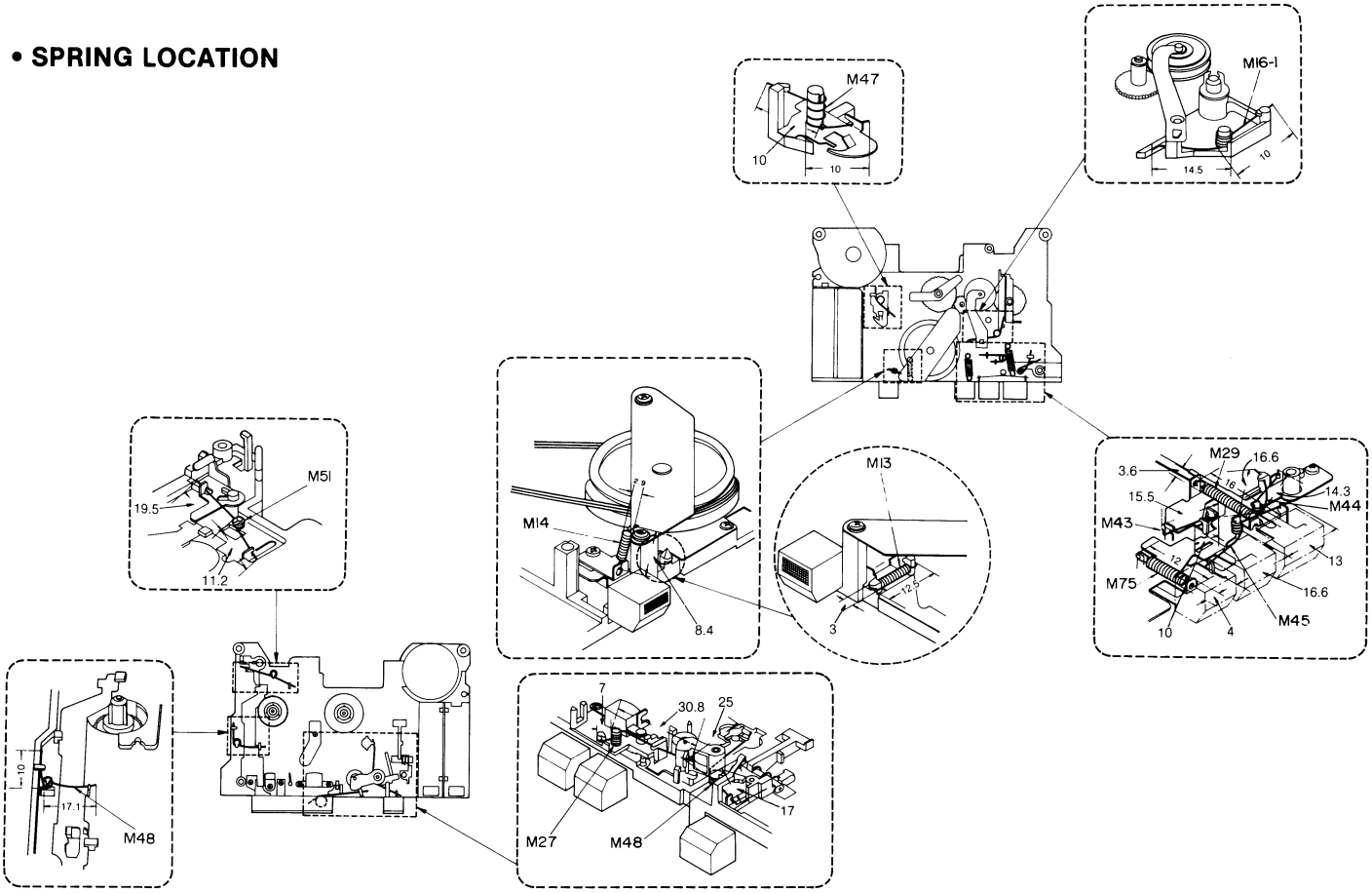
Precision machine screw	Machine screw	Tapping/Tap-tight machine screw
XQC Flat head	XSB Binding head	XTB Binding head
XQG Oval fillister head	XSC Oval countersunk head	XTC Oval countersunk head
XQH Flat fillister head	XSH Flat fillister head	XTN Pan head
XQS Flat head	XSN Pan head	XTS Flat head
	XSS Flat head	

REPLACEMENT PARTS LIST

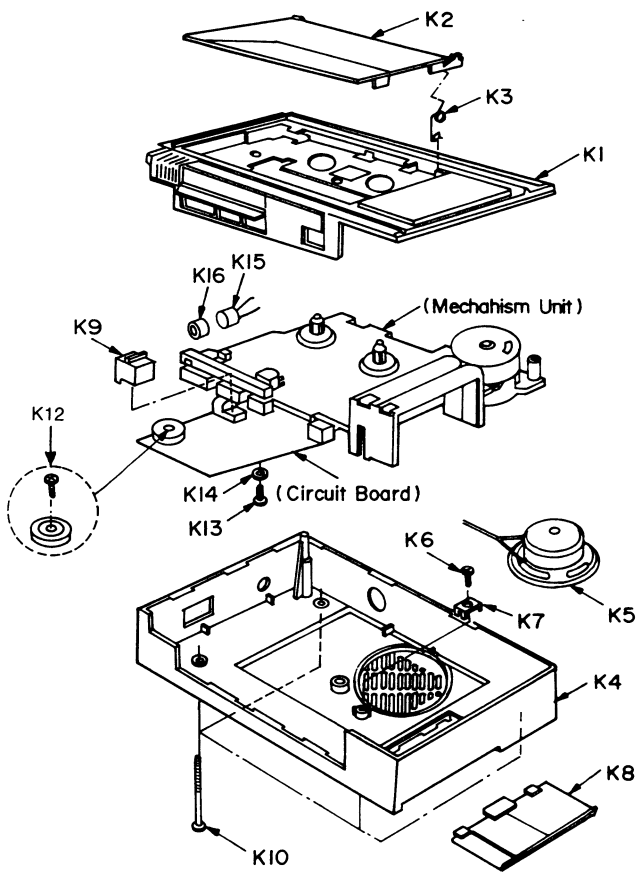
Ref. No.	Part No.	Part Name & Description
	MECHANICAL PARTS	
M 1	**6NRAK345Z**	Record Rod Ass'y
M 2	**RBCK88Z**	Button, Record
M 3	**XYC26+CF6**	Screw, Record Button M'tg
M 4	**2NRAK345Z**	Eject/Pause Button Ass'y
M 5	**3NRAK345Z**	FF Button Ass'y
M 6	**4NRAK345Z**	REW Button Ass'y
M 7	**5NRAK345Z**	Stop Button Ass'y
M 8	**QXD0131**	Take Up Reel Table Ass'y
M 9	**QXi0119**	Idler Ass'y
M 10	**QML3849**	Lever, Idler
M 11	**QBW2046**	Washer, Idler Ass'y M'tg
M 12	**QMR1978**	Rod, Auto Stop Driving
M 13	**QBT1940**	Spring, Auto Stop Driving Rod
M 14	**QXL1502**	Pinch Roller Ass'y
M 15	**QXG1061**	Fast Wind Pulley Ass'y
M 16	**QXL1503**	Fast Wind Frame Ass'y
M 16-1	**QBN1837**	Spring, Fast Wind Frame Ass'y
M 17	**QBW2008**	Washer, Review Lever, Take Up Reel Table etc. M'tg
M 18	**QXU0384**	Motor Ass'y
M 19	**QXH0379**	Flywheel Holding Plate Ass'y
M 20	**QXF0184**	Flywheel Ass'y
M 21	**QMK1944**	Plate, Head Base
M 22	**QML3852**	Lever, Auto Stop Detection
M 23	**QMZ1282**	Spacer, Head
M 24	**QBC1298**	Spring, Head Azimuth adj.
M 25	**QJT0039**	Lug Terminal
M 26	**XSB2D105**	Screw, Record/Playback Head Azimuth adj.
M 27	**QBN1842**	Spring, Pinch Roller
M 28	**QMF2217**	Plate, Rod Holding
M 29	**QBT1914**	Spring, Playback Rod
M 30	**QBT1942**	Spring, FF Button Ass'y
M 32	**QBG1420**	Cushion, Motor
M 33	**QMC0079**	Collar, Motor
M 34	**QJB0166**	Battery Terminal, +/−
M 35	**QJB0158**	Battery Terminal, −
M 36	**QJB0168**	Battery Terminal, +/−
M 37	**QJB0159**	Battery Terminal, +/−
M 38	**QJB0167**	Battery Terminal, +
M 39	**QBN1843**	Spring, Cassette Retainer
M 40	**QMR2221**	Rod, Switch
M 41	**QMR1979**	Rod, Lock
M 42	**QMR1972**	Rod, Playback
M 43	**QBN1838**	Spring, Playback Rod
M 44	**QBN1840**	Spring, Lock Rod
M 45	**QBN1836**	Spring, Stop Rod
M 46	**QML3854**	Lever, Pause Lock
M 47	**QBN1835**	Spring Pause Lock Lever
M 48	**QBN1841**	Spring, Record Rod
M 49	**QBN1844**	Spring, Idler
M 50	**QML3847**	Lever, Erase Safety
M 51	**QBN1839**	Spring, Erase Safety Lever
M 52	**QML3853**	Lever, Cassette Up
M 53	**QBC1396**	Spring, Cassette Up Lever
M 54	**QDG1252**	Gear, FF
M 55	**QDR1157**	Supply Reel Table
M 56	**RBCK83Z**	Button, Playback
M 57	**QML3848**	Lever, Review
M 58	**QDB0309**	Belt, Fast Wind
M 59	**QDB0308**	Belt, Flywheel
M 60	**QBP1940**	Spring, Head Base Plate Pressure
M 61	**QDK1012**	Steel Ball ϕ2.5
M 62	**QBC1272K**	Spring, Back Tension
M 63	**QBC1359**	Spring, Flywheel
M 64	**XUBQ4F**	C Ring, Fast Wind Frame Ass'y M'tg
M 65	**QBW0043**	Washer, Flywheel
M 66	**QBW0042**	Washer, Take Up Reel Table
M 67	**XYN26+B75**	Screw, Motor M'tg
M 68	**XTN26+8**	Screw, Flywheel Holding Plate, Rod Holding Plate M'tg
M 69	**XSN2+10**	Screw, Playback Button M'tg
M 70	**XTN26+8BFZ**	Screw, Head Base Plate Pressure M'tg
M 71	**XWG26**	Washer, Frame Holding Plate, Battery String etc. M'tg
M 72	**XWA26B**	Washer, Motor M'tg
M 73	**QMF2231**	Plate, Frame Holding
M 74	**XTN26+6B**	Screw, Frame Holding Plate, Battery String M'tg
M 75	**QBT1902**	Spring, Earth
M 76	**QWY0155Y**	Head, Record/Playback
M 77	**QWY2169**	Head, Erase
M 78	**QBJK0062**	Battery String
M 79	**3UAAK345Z**	Chassis Ass'y
M 81	**XWG26FZ**	Washer, Head Base Plate Pressure M'tg
M 82	**XWG2**	Washer, Playback Button M'tg
M 83	**RUQK22Z**	Spring, Back Tension
M 84	**XTN26+5B**	Screw, Erase Head M'tg
M 85	**RNWK208Z**	Washer, Supply Reel Table

▼ Be sure to fold at the (▼) mark so that mark is on the outside.

• SPRING LOCATION



CABINET PARTS LOCATION



REPLACIMENT PARTS LIST

Notes:

1. The letter in round brackets in the Ref. No. column indicates the shipping destination.
   (M)...For U.S.A. (C)...Canada.
2. The letter in the circle after the part name indicates the color of the part.
   Ⓗ...Gray, Ⓚ...Black, Ⓢ...Silver

Ref. No.	Part No.	Part Name & Description
	CABINET PARTS	
K 1	**RYMQ345M8**	Front Cabinet Ass'y Ⓢ
K 2	**RYQQ345M**	Cassette Compartment Ass'y
K 3	**RUS629Z**	Spring, Cassette Compartment
K 4	**RKFK16Z7**	Rear Cabinet
K 5	**RAS45P05Z**	Speaker
K 6	**XTN26 + 6G**	Screw, Speaker M'tg
K 7	**QMA3903**	Holder, Speaker M'tg
K 8	**RYNQ345M7**	Battery Compartment Ass'y Ⓗ
K 9	**RUCK2Z**	Holder, Jack
K 10	**XTN26 + 30GFY**	Screw, Front Cabinet Ass'y M'tg
K 12	**QGT1560K**	Knob, Volume Ⓚ
K 13	**XTN26 + 8B**	Screw, Circuit Board M'tg
K 14	**XWG26**	Washer, Circuit Board M'tg
K 15	**WM034CZ102**	Microphone
K 16	**QBG1616**	Microphone Rubber
	ACCESSORIES	
A 1 (M) (For U.S.A.)	**RQXK4041Z**	Operating Instructions
A 1 (C) (For Canada.)	**RQXK4046Z**	Operating Instructions
	PACKINGS	
P 1 (M) (For U.S.A.)	**RPKK1040Z**	Gift Box
P 1 (C) (For Canada.)	**RPKK1046Z**	Gift Box
P 2	**RPNK3017Z**	Cushion
P 3	**RPEK115Z**	Pad
P 4	**XZB21X20A01**	Poly Sheet

KTB
H.S MC
Printed in Japan Ⓗ